

Applicant: Zihong Jin et al.
Application No.: 09/787,858
Filed: March 22, 2001
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REMARKS

Claims 1, 3, 10-13, 15, 20 and 21 have been amended. Claims 24-29 have been added. Claims 2, 4 and 14 have been cancelled. Claims 1, 3, 5-13 and 15-29 are now pending in the application. Reconsideration and reexamination of the application, as amended, are respectfully requested.

Claim 1 has been amended to incorporate the limitations of claims 2, 4 and 12.

Claims 1 and 20 have been amended to change "at least one of the anode, cathode and electrolyte" to "at least one of the anode, cathode or electrolyte", as suggested for claim 1 by the Examiner.

Claim 3 has been rewritten in independent form, including all of the limitations of claim 1 before the above amendment, plus the limitations of claim 14, and using the alternative language suggested for claim 1 by the Examiner.

Claim 10 has been rewritten in independent form including all of the limitations of claim 1 and all intervening claims before the above amendment and using the alternative language suggested for claim 1 by the Examiner.

Claim 11 has been amended to add "n-type" before "metal oxide additive".

Claim 12 has been amended to depend from claim 3 rather than claim 2.

Claim 13 has been rewritten in independent form including all of the limitations of claim 1 and all intervening claims as well as claim 14 before the above amendment and using the alternative language suggested for claim 1 by the Examiner. Claim 13 has also been amended to add "n-type" before "metal oxide" and to recite that the n-type metal oxide comprises TiO_2 doped with Nb_2O_5 .

Claim 15 has been amended to depend from claim 3 rather than cancelled claim 14.

Claim 20 has been amended to depend from claim 3 rather than claim 1.

Claim 21 has been rewritten in independent form to include all of the limitations of claims 1 and 20 before the above amendments and using the alternative language suggested for claim 1 by the Examiner.

Claim 24 has been added, reciting that the resistivity is 10 ohm-cm or less, a feature of original claim 19.

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Claim 25 has been added, reciting that the n-type reduced metal oxide is reduced TiO_2 . Basis for this amendment is found on page 4, lines 8-11 of the specification.

Claim 26 has been added, reciting that the doped metal oxide is initially contained in the cathode, a feature of original claim 11.

Claim 27 has been added, reciting that the doped metal oxide has a resistivity less than 100 ohm-cm, a feature of original claim 18.

Claim 28 has been added, reciting that the doped metal oxide has a resistivity of 10 ohm-cm or less, a feature of original claim 19.

Claim 29 has been added and corresponds to previous claim 20 before the above amendment.

Claims 24-29 have been added to define additional embodiments of the invention. They are not being added in response to any rejection.

Claims 2, 4 and 12 have been withdrawn.

In the Office action mailed on January 2, 2004, claims 1-9, 11-13, 18-20, 22 and 23 were rejected. Claims 10, 14-17 and 21 were objected to as being dependent upon a rejected base claim. The Examiner withdrew the previous objection to the specification. Applicant's arguments in response to the Office action dated March 21, 2003 were considered but found moot in view of new grounds of rejection. The Examiner objected to claim 1 for containing improper language. Claims 11 and 13-17 were rejected under 35 USC § 112, second paragraph, as being indefinite. Claims 1-3, 5-9, 11-13, 18-20, 22 and 23 were rejected under the judicially created doctrine of double patenting over claims 6, 10, 13, 17 and 20-22 of U.S. Patent No. 6,524,750. Claims 1, 2, 4, 11, 18 and 19 were rejected under 35 USC 102(b) as being anticipated by Clarke in U.S. Patent No. 5,281,496. The objections and rejections have been overcome by the above amendments, and Applicants believe that the application, as amended, is in condition for allowance.

The Examiner objected to claim 1 for containing improper language. Claim 1 has been amended to change "at least one of the anode, cathode and electrolyte" to "at least one of the anode, cathode or electrolyte", as suggested by the Examiner. Although it was not objected to, claim 20 contained the same phrase, and it has been amended in the same way.

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Claims 11 and 13-17 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 11 and 13 recite "the metal oxide additive" and "the metal oxide", respectively. The Examiner noted that "metal oxide" and "n-type metal oxide" are not equivalent terms, so there is insufficient antecedent basis for each of these terms. Claims 11 and 13 have been amended by inserting "n-type" before "metal oxide". Claim 13 also recites "the dopant", for which there is insufficient antecedent basis. Claim 13 has been amended by deleting the term "the dopant" and rephrasing the claim to recite that the n-type metal oxide comprises TiO_2 doped with Nb_2O_5 . Claim 13 has also been rewritten in independent form, including all of the limitations of claim 1, all intervening claims and claim 14 before the above amendments. In doing so, the alternative language suggested by the Examiner for claim 1 was used.

Claims 1-3, 5-9, 11-13, 18-20, 22 and 23 were rejected under the judicially created doctrine of double patenting over claims 6, 10, 13, 17 and 20-22 of U.S. Patent No. 6, 524,750. Claim 1 has been amended to incorporate the limitations of claim 4 (not included in the double patenting rejection), reciting that the additive contains n-type, reduced metal oxide particles. Claim 3 has been written in independent form and amended to incorporate the limitations added in claim 14 (not included in the double patenting rejection), reciting that the n-type metal oxide has an average particle size of 60 μm or less. While amended claim 3 does not include the limitations recited in claims 2, 12 and 13, from which claim 14 depended, none of the claims of U.S. Patent No. 6,524,750 recite a cell comprising an n-type metal oxide additive having an average particle size of 60 μm or less. For these reasons the double patenting rejection has been overcome by the amendment of claims 1 and 3.

Claims 1, 2, 4, 11, 18 and 19 were rejected under 35 USC 102(b) as being anticipated by Clarke in U.S. Patent No. 5,281,496. All of the limitations of claim 12, which was not rejected as anticipated by or obvious over Clarke, including with the limitations of intervening claim 2, have been incorporated into claim 1 in the above amendment. Claims 2 and 12 have been cancelled.

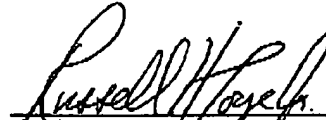
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For the reasons above, all of the objections rejections have been overcome by the above claim amendments. Allowance of claims 1, 3, 5-13 and 15-29, as amended above, is requested.

Respectfully submitted,

Date:

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